

Appl. No. : 10/017,916
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AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) An accommodating intraocular lens for implantation in an eye having a lens capsule and an optical axis, said lens comprising:

an optical axis configured to coincide substantially with the optical axis of the eye upon implantation of said lens;

an anterior portion comprised of a viewing element, said viewing element comprised of an optic having refractive power;

a posterior portion comprised of a viewing element, said anterior portion and posterior portion meeting at first and second apices of said intraocular lens, said apices lying substantially on a transverse axis of said lens, said viewing elements mounted to move relative to each other along the optical axis of the eye between an accommodated state and an unaccommodated state in response to force generated by the ciliary muscle of the eye;

a distending portion comprised of a first distending member having a fixed end attached to one of the anterior portion and the posterior portion, said first distending member spaced outwardly from said optical axis of said lens, an outermost portion of said first distending member and a free end sized and oriented to distend a portion of the lens capsule such that coupling of forces between the lens capsule and the intraocular lens is modified by said distending portion;

wherein said outermost portion of said first distending member is closer to said transverse axis, as measured along a direction generally parallel to the optical axis of the lens while said lens is viewed from the side, when said viewing elements are in said unaccommodated state, than when said viewing elements are in said accommodated state.

2. (CURRENTLY AMENDED) The lens of Claim 1, wherein said distending portion further comprises a second distending member attached to one of the anterior portion and the posterior portion, said second distending member having an outermost portion remote from said optical axis of said lens, said second distending member having a fixed end attached to one of the anterior portion and the posterior portion, and a free end sized and oriented to distend a portion of the lens capsule.

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3. (CURRENTLY AMENDED) The lens of Claim 2, wherein:
~~said lens includes an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;~~ and
said first and second distending portions members are attached to said viewing element of said posterior portion and are arranged 180 degrees apart about said optical axis of said lens.

4. (ORIGINAL) The lens of Claim 1, wherein said first distending member further comprises an opening to permit cellular ingrowth by adjacent portions of the lens capsule.

5. (CURRENTLY AMENDED) The lens of Claim 1, wherein:
~~said lens includes an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;~~
said anterior portion further comprises an anterior biasing element and said posterior portion further comprises a posterior biasing element, said biasing elements being joined at said first and second apices which are, said first and second apices being spaced from said optical axis of said lens; and
said first distending member is located angularly midway between said apices about said optical axis of said lens.

6. (CURRENTLY AMENDED) The lens of Claim 5, wherein:
said distending portion further comprises a second distending member attached to one of the anterior portion and the posterior portion, said second distending member having an outermost portion remote from said optical axis of said lens, said second distending member having a fixed end attached to one of the anterior portion and the posterior portion, and a free end sized and oriented to distend a portion of the lens capsule; and

 said second distending member is located angularly midway between said apices about said optical axis of said lens and is arranged 180 degrees away from said first distending member about said optical axis of said lens.

7. (CURRENTLY AMENDED) The lens of Claim 1, wherein:

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~~said lens includes an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens; and~~

~~said free end outermost portion of said first distending member is adapted to remain at a substantially constant distance from said optical axis as said viewing elements move relative to each other.~~

8. (WITHDRAWN) The lens of Claim 1, wherein:

said lens includes an optical axis which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said anterior portion further comprises an anterior biasing element and said posterior portion further comprises a posterior biasing element, said biasing elements being joined at first and second apices which are spaced from said optical axis of said lens; and

said lens further comprises at least one rim member extending from one of said first and second apices to said free end of said first distending member.

9. (WITHDRAWN) The lens of Claim 8, wherein:

said distending portion further comprises a second distending member having a fixed end attached to one of the anterior portion and the posterior portion, and a free end sized and oriented to distend a portion of the lens capsule; and

said lens further comprises at least one rim member extending from one of said first and second apices to said free end of said second distending member.

10. (WITHDRAWN) The lens of Claim 9, further comprising rim members extending from said first apex to said free ends of said first and second distending members, and from said second apex to said free ends of said first and second distending members.

11. (CURRENTLY AMENDED) An accommodating intraocular lens for implantation in an eye having an optical axis, said lens comprising:

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an anterior portion comprised of an anterior viewing element and an anterior biasing element connected to said anterior viewing element, said anterior viewing element comprised of an optic having refractive power;

a posterior portion comprised of a posterior viewing element and a posterior biasing element connected to said posterior viewing element;

an optical axis of said lens which is adapted to be substantially coincident with the optical axis of the eye upon implantation of said lens;

said anterior and posterior viewing elements mounted to move relative to each other along the optical axis of the eye between an accommodated state and an unaccommodated state in response to force generated by the ciliary muscle of the eye, said biasing elements being joined at first and second apices which are spaced from said optical axis of said lens, said apices lying substantially on a transverse axis of said lens;

a first distending member extending disposed between said first and second apices and spaced outwardly from said optical axis of said lens, an outermost portion of said distending member being closer to said transverse axis, as measured along a direction generally parallel to the optical axis of the lens while said lens is viewed from the side, when said viewing elements are in said unaccommodated state, than when said viewing elements are in said accommodated state.

12. (WITHDRAWN) The lens of Claim 11, wherein said distending member comprises an arcuate portion extending between said first and second apices.

13. (WITHDRAWN) The lens of Claim 12, wherein said distending member comprises first and second arcuate portions extending between said first and second apices on either side of said lens.

14. (WITHDRAWN) The lens of Claim 13, wherein said first and second arcuate portions define a width of said lens and said first and second apices defining a height of said lens, said width being larger than said height.

15. (CANCELLED)

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16. (CANCELLED)

17. (CANCELLED)

18. (CANCELLED)

19. (CANCELLED)

20. (WITHDRAWN) A method comprising:

implanting an accommodating intraocular lens having anterior and posterior portions that are biased apart, said implanting comprising placing said lens in a lens capsule of an eye and reshaping the lens capsule by applying a distending force thereto, said reshaping comprising tensioning at least a portion of the capsular membrane to cause the capsule to draw the anterior and posterior portions towards each other at least when the ciliary muscle of the eye is relaxed and the accommodating lens is in an unaccommodated state.

21. (WITHDRAWN) The method of Claim 20, wherein said tensioning comprises applying a distending force only to the posterior side of the lens capsule.

22. (WITHDRAWN) The lens of Claim 1, wherein:

at least one of said portions further comprises first and second translation members connected to said viewing element; and
said first distending member is coupled to said first and second translation members.

23. (WITHDRAWN) The lens of Claim 22, further comprising a second distending member coupled to first and second said translation members.

24. (NEW) The lens of Claim 1, wherein said first distending member is configured to distort the lens capsule such that the shape of the capsule is asymmetric about a plane perpendicular to the optical axis and passing through said apices.

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25. (NEW) The lens of Claim 11, wherein said eye has a lens capsule and said distending member is configured to distort the lens capsule such that the shape of the capsule is asymmetric about a plane perpendicular to the optical axis and passing through said apices.

26. (NEW) The lens of Claim 11, wherein said anterior and posterior portions are joined only at said first and second apices.

27. (NEW) An accommodating intraocular lens, comprising:
an anterior portion comprising:
 an anterior viewing element; and
 plural anterior translation members extending from said anterior viewing element, said plural anterior translation members comprising a first anterior translation member and a second anterior translation member;
a posterior portion comprising:
 a posterior viewing element; and
 plural posterior translation members extending from said posterior viewing element, said plural posterior translation members comprising a first posterior translation member and a second posterior translation member;
 said first anterior translation member joined to said first posterior translation member at a first apex of said lens;
 said second anterior translation member joined to said second posterior translation member at a second apex of said lens;
 said translation members biasing said viewing elements apart toward an accommodated state;
 a first posterior distending member extending from said posterior viewing element between said first and second posterior translation members; and
 a second posterior distending member extending from said posterior viewing element between said first and second posterior translation members;
 wherein said anterior and posterior portions are joined only at said first and second apices.

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28. (NEW) The lens of Claim 27, wherein:

said apices lie substantially on a transverse axis of said lens; and
an outermost portion of said first posterior distending member is closer to said transverse axis, as measured along a direction generally parallel to said optical axis of said lens while said lens is viewed from the side, when said viewing elements are in said unaccommodated state, than when said viewing elements are in said accommodated state.

29. (NEW) The lens of Claim 28, wherein an outermost portion of said second posterior distending member is closer to said transverse axis, as measured along a direction generally parallel to said optical axis of said lens while said lens is viewed from the side, when said viewing elements are in said unaccommodated state, than when said viewing elements are in said accommodated state.

30. (NEW) The lens of Claim 27, wherein said first and second posterior distending members are arranged 180 degrees apart about said optical axis of said lens.

31. (NEW) The lens of Claim 27, wherein at least one of said first and second posterior distending members further comprises an opening to permit cellular ingrowth by adjacent portions of the lens capsule.

32. (NEW) The lens of Claim 27, wherein at least one of said first and second posterior distending members is located angularly midway between said apices about said optical axis of said lens.

33. (NEW) The lens of Claim 27, wherein an outermost portion of at least one of said first and second posterior distending members is configured to remain at a substantially constant distance from said optical axis as said viewing elements move relative to each other.

34. (NEW) The lens of Claim 27, wherein at least one of said first and second posterior distending members is configured to reshape the lens capsule such that force coupling between the ciliary muscle and the lens is modified.

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35. (NEW) The lens of Claim 11, further comprising a second distending member disposed between said first and second apices, said first and second distending members being arranged 180 degrees apart about said optical axis of said lens.

36. (NEW) The lens of Claim 11, wherein said first distending member further comprises an opening to permit cellular ingrowth by adjacent portions of the lens capsule.

37. (NEW) The lens of Claim 11, wherein said first distending member is located angularly midway between said apices about said optical axis of said lens.

38. (NEW) The lens of Claim 11, wherein said outermost portion of said first distending member is configured to remain at a substantially constant distance from said optical axis as said viewing elements move relative to each other.

39. (NEW) The lens of Claim 11, wherein said first distending member is configured to reshape the lens capsule such that force coupling between the ciliary muscle and the lens is modified.

40. (NEW) The lens of Claim 11, wherein the force generated by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.

41. (NEW) The lens of Claim 1, wherein the force generated by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.

42. (NEW) The lens of Claim 27, wherein the force generated by the ciliary muscle is due to relaxation of the ciliary muscle such that tension is increased in the zonules of the eye.